Attachment 1

Proposed Stage 1 Water Supply Reliability Improvement Actions

Proposed actions are listed in the following sections that could be bundled to achieve water supply reliability improvements in a balanced approach, consistent with CALFED's solution principles and solution objectives. They include actions to improve water transfers, water use efficiency, water quality, south Delta conveyance improvements, and system storage capacity (including groundwater banking, conjunctive use, and surface storage). While clearly of great importance to the CALFED solution process, conveyance elements beyond the South Delta conveyance improvements are not included because they are more closely linked to water quality, flood management, and fishery issues. This list has been extracted from the draft Preferred Alternative Framework Document, which BDAC has reviewed over the past several months during its development.

Water Transfer Framework

1. Establish the California Water Transfers Information Clearinghouse to collect and disseminate data and information relating to water transfers and potential transfer impacts, perform research using historic data to understand water transfer impacts, and provide a forum for discussion and comment on proposed transfers (yr 1).

2. Coordinate with CALFED agencies to formulate policy, under their existing authorities, for required water transfer analysis (yr 1).

3. Begin forecast and disclosure process (DWR and USBR) of potential conveyance capacity in existing export facilities. This would be an on-going activity, occurring in conjunction with hydrologic forecasts (yr 1).

4. Develop a standardized checklist and analysis procedure (SWRCB, DWR, and USBR) to be followed by transfer proponents for proposed transfers (yr 1-2).

5. CALFED agencies work with stakeholder representatives to reduce the conflict between transfer proponents and the SWRCB, DWR, or USBR regarding what water is deemed transferable under what conditions (yr 1-3).

6. CALFED agencies continue work with stakeholder representatives to resolve conflicts over reservoir refill and carriage water criteria (yr 1-3).

7. CALFED agencies adopt methods to monitor instream transfers and develop associated tracking measures (yr 2-4).

8. CALFED agencies adopt criteria governing the determination of transport costs in state and federal conveyance facilities (both existing and new, if constructed) (yr 2-4).

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Water Use Efficiency

1. Expand DWR and USBR programs to provide technical and planning assistance to local agencies and explore new ways of developing assistance and involving other CALFED agencies (yr 1-7).

2. Develop mechanisms for approval authority for urban water management plans (yr 1-3); e.g., approved plans would be a condition for urban areas receiving CALFED benefits.

3. Implement urban MOU process fully with certification of agency implementation plans (yr 3-7).

4. Implement the Agricultural Water Management Council (AB 3616) process fully with endorsement of agency plans under AB3616 and CVPIA (provided that the Council achieves broad stakeholder support) (yr 1-7); e.g., rely on Council to endorse plans of signatory member agencies as condition for receiving CALFED benefits; explore additional ways to build consensus on the process.

5. Resolve legal, institutional, and funding limitations for agricultural and urban water recycling (yr 1-3).

6. Participate in conservation and water recycling projects (yr 3-7); e.g., preferential funding assistance for projects providing multiple CALFED benefits such as agricultural tail water recycling which could benefit fish by reducing diversions, reduce pollutant loading, etc.

7. Implement the methodology for refuge water management which was recently developed, based upon stakeholder and scientific input, including preparation of an Effective Water Use Plan and annual reports by each refuge manager (yr 1-7). Consistent with assurance mechanisms for urban and agricultural water users, access to CALFED benefits will be contingent upon continued implementation of the Effective Water Use Plan (yr 1-7).

Water Quality

1. Conduct the following salinity reduction work:

Develop and implement supply water quality management activities to improve supply quality (yr 1-7).

Develop and implement a management plan to reduce drainage and reduce total salt load to the valley (yr 1-7).

Conduct pilot projects to evaluate the feasibility of water reuse, through agro-forestry, of various concentrations of saline water (yr 4-6).

Study feasibility of desalination methods including reverse osmosis (yr 7).

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Study cogeneration desalination (yr 7).
Implement real time management of salt discharges (yr 3-7).

Storage

South-of-Delta Groundwater Banking and Conjunctive Use

1. Develop and implement a framework for groundwater banking and conjunctive use projects (yr 1).

2. Include provisions to protect overlying landowners' water rights (yr 1-7).

3. Provide funding assistance for groundwater plan development (yr 1-7).

4. Identify potential projects and local cooperating entities (yr 1-3).

5. Conduct baseline monitoring and modeling (yr 1-5).

6. Conduct field studies (yr 2-7).

7. Project environmental documentation and permitting (yr 3-7).

8. Ensure protection of landowners water rights (yr 1-7).

9. Project design (yr 4-7).

10. Conduct demonstration projects and construct two to three production facilities with target volume of 500,000 acre-feet storage (yr 1-7); e.g., potential options include Madera Ranch, Stockton East, expanded Kern Water Bank, and others.

11. Study additional potential project sites (yr 2-7).

North of Delta Groundwater Banking and Conjunctive Use

1. Develop and implement a framework for groundwater banking and conjunctive use projects (yr 1).

2. Include provisions to protect overlying landowners' water rights (yr 1-7).

3. Provide funding assistance for groundwater plan development (yr 1-7).

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4. Identify potential projects and local cooperating entities and define CALFED role (yr 1-3).

5. Initiate baseline monitoring and modeling (yr 1-7).

6. Initiate field studies (yr 2-7).

7. Project environmental documentation and permitting (yr 3-7).

8. Project design (yr 4-7).

Surface Storage

1. Identify local cooperating entities and CALFED role (yr 1-3).

2. Environmental documentation (yr 1-5).

3. Feasibility studies (yr 1-5).

4. Field studies (yr 1-5).

5. 404(b)(1) analyses (yr 1-5).

6. Site selection (yr 4-5).

7. Evaluate improvements to potential conveyance to storage (yr 1-5).

8. Permits and operating agreements (yr 5-7).

9. Begin construction if conditions and linkages are satisfied (yr 6-7).

South Delta Improvements

1. Complete environmental documentation and permitting including 404(b)(1) analysis (yr 1).

2. Design south Delta improvements (yr. 1); among others, such improvements could include:
Operable fish barrier at head of Old River to improve San Joaquin salmon survival and improve water quality in lower San Joaquin River below the Barrier (Note: May impair upstream migration of San Joaquin salmon in the fall and increase entrainment of organisms living in the central and southern Delta)

Three south Delta waterway control structures to protect south Delta agricultural water supplies

Clifton Court Forebay intake structure

Channel enlargement along Old River

Modified operation rules, including increased use of full capacity of Banks Pumping Plant linked to improved fish protections (flexible operations)

3. Implement south Delta improvements [balanced to improve water supply and environmental conditions] (yr 2-4).

4. Implement an intertie between the Delta-Mendota Canal (at approximately Mile 8) and California Aqueduct downstream of export pumps (yr 2-4).

5. Construct new Tracy demonstration/testing fish screen and handling facility capable of screening 2,500 cfs at 0.2 fps through-screen velocity and 5,000 cfs at 0.4 fps through-screen velocity (yr 1) Notes: Screen operation would be under criteria established by NMFS, FWS, and DFG. There may be some stranded costs if the point of diversion is moved sometime in the future. The facility would be operated for the following purposes:

- Improve survival of salvaged fish at the Tracy pumping plant
- Reduce entrainment at the Tracy pumping plant
- Provide valuable information for design of future fish facilities

6. Convert fish screen demonstration project at Tracy Pumping Plant to production facility and expand capacity if appropriate (yr 4-6).

7. Implement first increment of new south Delta fish screening and fish handling facility at the northeast entrance to Clifton Court Forebay [full module capable of screening 6,000 cfs at 0.2 through-screen velocity and 12,000 cfs at 0.4 fps through-screen velocity] (yr 2-6) ; Notes: Screen operation would be under criteria established by NMFS, FWS, and DFG. There may be conflicts with higher pumping rates (e.g., over pumping screens or exporting water that is not first screened). Facility would be operated for the following benefits:

- Improve survival of fish in the south Delta near the State export pumping plant
- Reduce predation of fish in Clifton Court Forebay
- Reduce exposure of fish residing in or migrating through the central and south Delta to entrainment

8. Evaluate (and, if promising, pilot test) benefits/impacts of recirculation of a portion of Delta Mendota Canal flows through the Newman Wasteway to the San Joaquin River for water quality and ecosystem enhancement (yr 1-4).

9. Project environmental documentation and permitting for SWP/CVP intertie (yr 2-4).

10. Design and construct SWP/CVP intertie upstream of export pumps [tie Tracy Pumping Plant intake to Clifton Court Forebay] (yr 5-7+).

11. Implement joint point of diversion for SWP/CVP (This is a SWRCB permit action that would allow the SWP to pump CVP export flows and vice versa (yr 1-7).

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